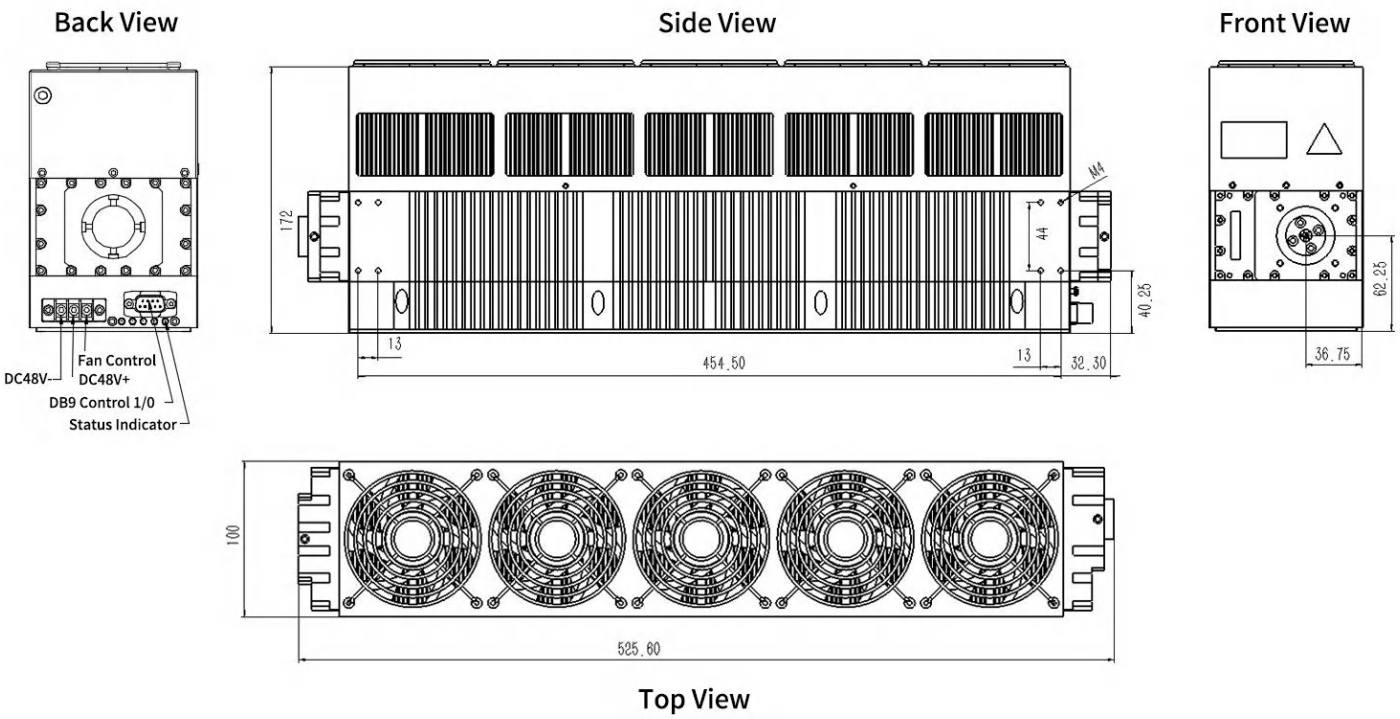
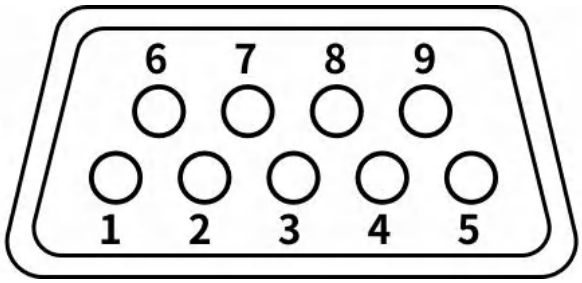
ET-80A Laser Parameters

Model	ET-80A
Pump Method	RF
RF Frequency	81.36MHz
Wavelength	10.6μm
Average Power	80W
Output power range	1~80W
Beam Quality(M^2)	<1.2
PWM Duty Cycle	1~100%
Modulation	0~50kHz
Power stability	≤±7%
Beam diameter ($1/e^2$)	2.1±0.3mm
Beam Divergence (full)	≤8.0mrad
Beam Ellipticity	＜1.2
Polarization	Linearly Polarized,Parallel to the base
Range of Wavelength	10.3~10.8μm
Dimensions	525.6mm*100mm*172mm
Weight	11.2kg
Input	48VDC±0.5VDC/30A (Max. current)
Cooling	Air-cooled
Environmental Temperature	5~35°C（41~86°F）
Humidity	≤95%，No condensation

ET-80A mechanical specifications



ET-80A Control signal interface description

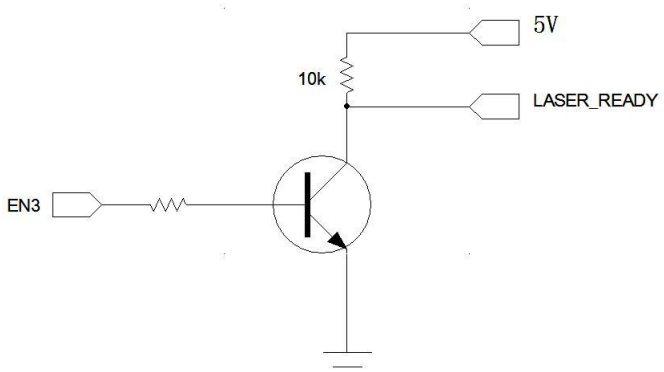


Pin	说明	Description
Pin1	Enable Signal	High level effective (DC 5V - 12V). The laser enters a 20-second preparation time before it can emit light. The return pin is Pin 9.
Pin2	Fault Output	Normally outputs 5V. Outputs 0V when a fault is detected.①
Pin3	Ready Signal	Outputs 5V when the laser is ready. Outputs 0V during power-on pre-ionization and fault conditions.②
Pin4	Undefined	Undefined
Pin5	Fault Indicator Signal	Connects to the fault indicator LED signal on the light board. The high level is 3.3V.③
Pin6	Light Emission Signal Positive	Light emission signal (PWM), high level effective
Pin7	Light Emission Signal Negative	
Pin8	5V Output	Can be used for external power supply with a current capacity of 200mA
Pin9	Return Pin	

Remark:

1) Fault Output Signal: The high level is 5V with a 10K pull-up resistor.

2) Ready Signal Output: The high level is 5V with a 10K pull-up resistor.

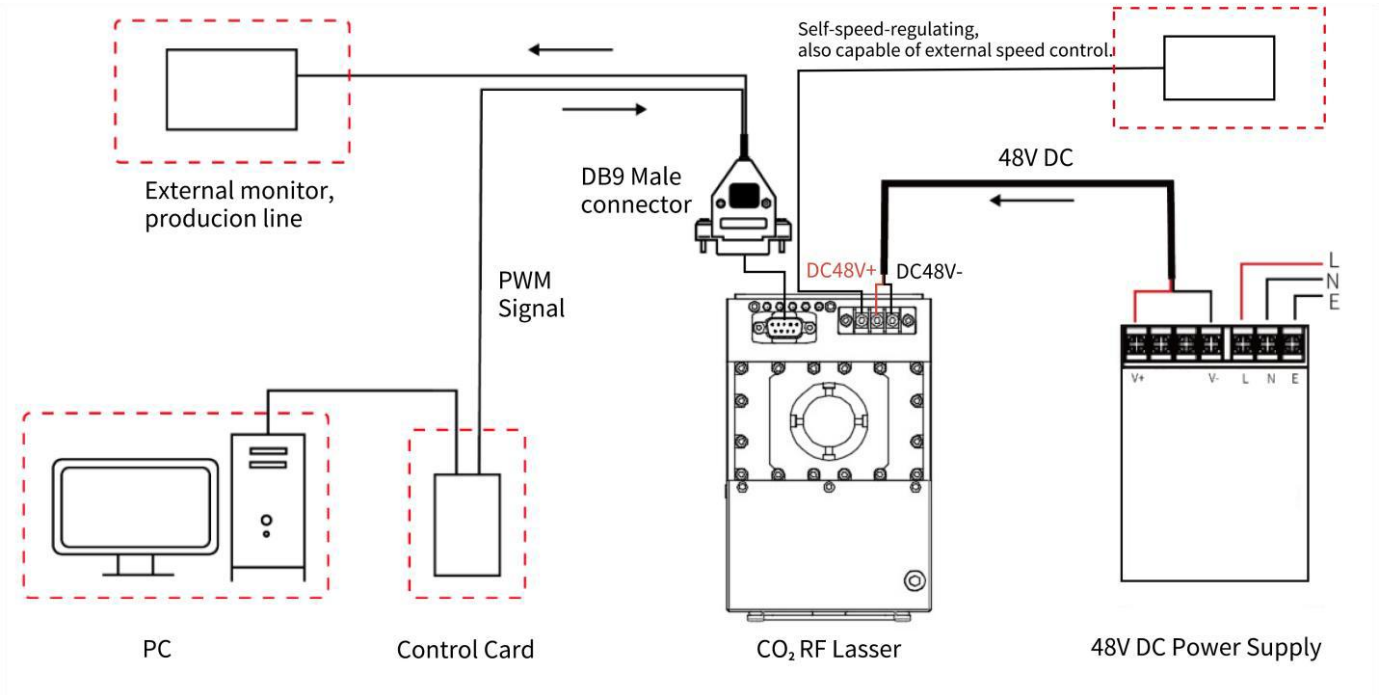


3) LED Fault Indicator Signal: Output from the MCU. The current-limiting resistor is 1K. The signal is a flashing output with a high level of 3.3V. When flashing, the high level lasts for 200ms, with an interval of 200ms.

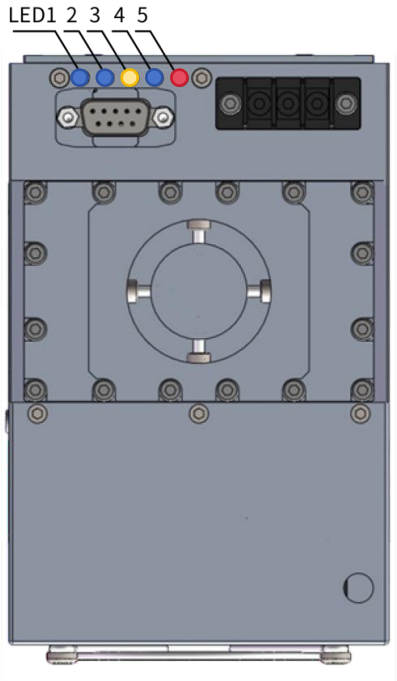
The definitions are as follows:

Off: Indicates no fault.
Flash once, off for 1 second: Indicates that the power supply voltage is below 46V.
Flash twice, off for 1 second: Indicates that the power supply voltage is above 50V.
Flash three times, off for 1 second: Indicates that the RF power amplifier temperature is greater than 80°C.
Flash four times, off for 1 second: Indicates an RF positive feedback fault.
Flash five times, off for 1 second: Indicates an RF negative feedback fault.
Long flash: Indicates excessive current.

ET-80A Wiring Diagram



ET-80A LED Indicators instruction



LED Indicators		
NO.	Color	Function
LED1	Blue	Always OFF
LED2	Blue	OFF: No fault Flashing 1time, OFF 1s: The power supply voltage is less than 46V. Flashing 2 times, OFF 1s: The power supply voltage is more than 50V. Flashing 3 times, OFF 1s:The temperature of the RF amplifier is more than 80°C Flashing 4 times, OFF 1s: The RF V+ feedback faulty Flashing 5 times, OFF 1s: The RF V- feedback faulty **Flashing Quickly: Power Overload Alarm**
LED3	Yellow	Always ON: The laser is ready. Flashing: The laser self-check or faulty, check with LED2.
LED4	Blue	Always ON: Connected to the external enable signal OFF: Not connected to the external enable signal
LED5	Red	Always ON: The laser is firing. OFF: The laser stops firing.